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PROJECT REPORT COMMITTEE ON FOOD RESEARCH		RESEARCH AND DEVELOPMENT BRANCH MILITARY PLANNING DIVISION OFFICE OF THE QUARTERMASTER GENERAL	
U.S. QUARTERMASTER FOOD AND CONTAINER INSTITUTE FOR THE ARMED FORCES CHICAGO ILLINOIS			
COOPERATING INSTITUTION	LOCALITY		
The Mount Sinai Hospital	1 East 100 Street, New York 29, N.Y.		
DIVISION	DEPARTMENT		
Laboratories	Gastroenterology Research Laboratory		
OFFICIAL INVESTIGATOR	COLLABORATORS		
Dr. Franklin Hollander	Dr. Herbert A. Sober Dr. Joseph Bandes		
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"Studies on the Physiology of Voluntary Food Intake"			
SUMMARY			
At the 55th week of study, F.Z.'s jejunal intake of unmodified Aliment was reduced from 4000 to 2000 Cal./day, and it was kept at this level for 5 weeks. During this period, his mean oral caloric intake decreased from a previous 10 week value of circa 11,000 Cal./day to about 7000 Cal./day, and his mean weight dropped from 112 to 103.8 lbs. Jejunal alimentation was then raised to 3000 Cal./day for 4 weeks, during which time there was a further drop in weight to 102 lbs. and an increase in oral intake to 15,000 Cal./day. Following this, F.Z. was allowed a 2-week vacation and he was supplied with Aliment for self-administration at a level of 4000 Cal./day. During this period his oral intake jumped to an average value of 20,000 Cal./day. On his return to the Laboratory, at the end of the vacation, his weight was 98.3 lbs. (average for one week). In the subsequent 4 weeks, on a jejunal intake of 4000 Cal./day, his weight rose only to 99.7 lbs. while his oral intake remained in the neighborhood of 20,000 Cal./day. The Aliment was then supplemented by the addition of 20 g. of whole Liver Substance per day. This was accompanied by an increase in body weight to a peak value of 104.5 lbs. and a mean of 103.9 lbs. (for the second week). The average oral caloric intake recorded for this period was 24,000 Cal./day.			
In general, these data indicate an increase in oral intake associated with an increase in jejunal intake. This result is contrary to expectation from general experience. Also, our earlier observations indicated that augmented jejunal intake resulted in a decreased oral intake. On the other hand, during the current period the body weight dropped with decreased jejunal intake, but then continued to fall in spite of the subsequent augmentation of jejunal calories. Only after liver was added to the Aliment was there a significant increase in weight -- 4.2 lbs. in 2 weeks -- in spite of a constant jejunal intake. The oral intake also rose by 4000 Cal., but the significance of this increase is uncertain because of the short period (2 weeks) of observation. During the first 2 weeks of the first test with liver supplement, F.Z.'s weight decreased, and his oral intake increased at least two-fold.			
Starting with the early summer, the subject became increasingly uncooperative as a result of several factors: late adolescence, anxiety over his weight loss, newspaper reports of miraculous cures of other individuals with esophageal			

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obstruction, and above all social pressure to "do something about his condition." In fact there were many signs of a desire for immediate relief -- even by surgery which had previously been rejected. Finally on October 10, he abruptly left the Laboratory in the middle of the day, ostensibly on impulse. A few days later we were informed by his mother that they were seeking therapy at another hospital, but might return to the Laboratory if they were unsuccessful. In view of the variability of response to a repetition of experimental conditions, and the impossibility of controlling the emotional factors involved, it is our tentative conclusion, that any physiological variables affecting oral intake in the present study were subordinate to the psychic influences.